(19) **United States**

(12) **Patent Application Publication** (10) Pub. No.: **US 2014/0340395 A1**

Mattila (43) **Pub. Date:** **Nov. 20, 2014**

(54) **IMAGE ENHANCEMENT USING A MULTI-DIMENSIONAL MODEL**

(71) Applicant: **Nokia Corporation**, Espoo (FI)

(72) Inventor: **Ville-Veikko Mattila**, Tampere (FI)

(73) Assignee: **Nokia Corporation**, Espoo (FI)

(21) Appl. No.: **13/897,575**

(22) Filed: **May 20, 2013**

Publication Classification

(51) **Int. Cl.**
G06T 17/00 (2006.01)

(52) **U.S. Cl.**
CPC **G06T 17/00** (2013.01)
USPC **345/420**

(57) **ABSTRACT**

A method and apparatus for enhancing an image capture of a geographic area is presented. The enhancement involves determining an estimated pose within a model that is related to an image using orientation and location data associated with the image. An alternate pose within the three dimensional model may be selected based on the estimated pose. A virtual image of the three dimensional model may be generated as a function of the alternate pose. The image and the virtual image may be combined to create a stereoscopic image.